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REPORT OF COMMISSION APPOINTED
TO REPORT ON THE LETHBRIDGE
NORTHERN AND OTHER IRRIGATION
DISTRICTS IN ALBERTA



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A Report submitted to the Premier of Alberta
October, 1930 by

M. L. Wilson, Chairman

W. H. Fairfield, Member of Commission

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Lethbridge, October 16th, 1930.

The Honourable J. E. Brownlee,
Premier of the
Province of Alberta,
Edmonton.

Sir:

I have the honour to present herewith the Report of the Commission appointed by Order-in-Council No. 868|30 dated July 25th, 1930, to enquire into and report upon the production and cost of production and irrigation in all those irrigation districts in the Province of Alberta, whose debentures have been guaranteed by the Provincial Treasurer.

I have the honour to be, Sir,

Your obedient Servant,

M. L. WILSON,
Chairman of the Commission.

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Order-in-Council 868-30

Approved and Ordered.

(Signed) W. Egbert,
Lieutenant Governor.

Edmonton, Friday, July 25th, 1930.

The Executive Council has had under consideration the report of the Honourable the Minister of Railways and Telephones, dated July 17th, 1930, stating that:

WHEREAS it has been represented to the Government that the production of the lands in the Lethbridge Northern Irrigation District is insufficient to enable the water users to meet the schedule of Water Right payments as provided by the Lethbridge Northern Colonization Act, and

WHEREAS it is considered advisable to enquire into the conditions with respect to production and irrigation charges in the said District as well as in those other irrigation districts in the Province whose debentures have been guaranteed by the Government;

THEREFORE, upon the recommendation of the Honourable the Minister of Railways and Telephones, the Executive Council advises that a Commission be and is hereby appointed, subject to such instructions as may be given thereto, to enquire into and report upon the production and the cost of production and irrigation in all those irrigation districts in the Province of Alberta whose debentures have been guaranteed by the Provincial Treasurer;

The Executive Council further advises, upon the recommendation of the Honourable the Minister of Railways and Telephones, that the following persons shall constitute the said Commission, of which the first named shall act as chairman:

M. L. Wilson, Bozeman, Montana.

W. H. Fairfield, Lethbridge, Alberta.

L. C. Charlesworth, Edmonton, Alberta.

(Signed) J E. BROWNLEE,
Chairman.

Instructions

Edmonton, 26th July, 1930.

Dear Sir:

The Commission for the Investigation of conditions of certain irrigation districts in Alberta was appointed "subject to such instructions as may be given thereto." Pursuant to that provision I desire to give you the following explanation and instructions as a guide to the Commission in its work.

Of the districts to be examined the Lethbridge Northern presents the most urgent need and should be dealt with first. Representations have been made that under the present plan of colonization the payments eventually become higher than can be met and that the plan of payment is such that no equity is acquired in the land even after a long period. Further that the ultimate cost of the land is out of line with that in similar projects owned by private companies.

Bearing in mind that in colonizing the lands in the Lethbridge Northern district the cost of similar land elsewhere is an important factor, it is desired that your Commission should enquire into the representations made and report as to whether any change is desirable in the present payments either in amount or in general plan with the end in view that the water users of the district may have reasonable expectations of making a satisfactory living and establishing and paying for a home and that the cost of land in the district shall not compare unfavourably with the cost of irrigated lands elsewhere.

The other districts whose debentures have been guaranteed by the Government and upon which an examination of conditions and a report is desired are as follows:

The New West Irrigation District,

The United Irrigation District,

The Little Bow Irrigation District.

Yours very truly,

(Signed) J. E. BROWNLEE.

Prof. M. L. Wilson,

Chairman, Commission on Irrigation Districts,
Lethbridge.

Lethbridge Northern Irrigation District

Lethbridge Northern District Hearings and Conferences

The Commission held public hearings at four points in the Lethbridge Northern Irrigation District as follows:

Hollandale School. (North of Macleod.)

Turin Hall.

Picture Butte Hall.

Coalhurst I.O.O.F. Hall.

These meetings were arranged with the assistance of the Ratepayers' Association through their secretary, Mr. J. I. McDermott, who gave valuable assistance to the Commission. The meetings were largely attended, many water users gave testimony with respect to their progress and much information of value was obtained.

Informal conferences were held with the Colonization Manager of the district, members of the Advisory Board to the Colonization Manager, officers of the Ratepayers' Association, officers of the Beet Growers' Association of the district, the Provincial Agricultural Agent at Lethbridge, representatives of mortgage companies, Wheat Pool officials, officers of the Dominion Reclamation Service, members of the legislature directly interested in the district, and others. All parts of the district were personally inspected and many water users were visited on their own farms.

The large irrigation projects of the C.P.R. and the Canada Land and Irrigation Company as well as numerous projects in Montana and Wyoming were visited and inspected and much very valuable information, including the production obtained by the farmers over a considerable period of years, was furnished by the officials.

Historical

In approaching the Lethbridge Northern question a short review of the history of the project seems desirable.

The lands in that part of the Province were originally considered suitable only for ranching, but following a series of wet years in the first decade of the present century the territory was opened up for settlement and was rapidly taken up and farmed. During the continuance of the years of ample rainfall magnificent wheat crops were produced, particularly in the years 1915

and 1916 when fine crops were general and good prices prevailed and the farmers in that area growing grain by dry farming methods became prosperous.

Commencing about 1917 or 1918 a series of dry years ensued during which the natural precipitation was quite insufficient for crops, and irrigation was sought as the solution of the troubles of the farmers.

The Reclamation Service of the Dominion Government had already made quite complete surveys and plans for the irrigation of the Lethbridge Northern area and the sentiment in favour of irrigation grew so unanimous that in 1919 the irrigation district was formed and a debenture issue was authorized by an almost unanimous vote of the people of the district, the estimated cost of the irrigation being over \$50.00 per irrigable acre.

The debentures, otherwise unsaleable, were fully guaranteed by the Provincial Government early in 1921. With that guarantee they were readily sold and the irrigation system installed.

The area as originally organized in 1919 included only a portion of what now constitutes the district. At the request of a number whose lands were not at first included an opportunity was given to add to the content of the district and in 1920 a block, which may for convenience be referred to as the Macleod area, was upon petition added. Special reference will be made to this area later.

The works were completed in time for the irrigation season of 1923, but floods early that season caused damage which rendered irrigation impossible in that year and added to the cost. The first year of irrigation in the district was, therefore, 1924.

The debenture issue had been made sufficiently large to provide for the payment of interest charges up to the end of 1923. When, in 1924, the time came to levy rates a general complaint arose that they could not be paid. This finally resulted in the investigation and report made by Dr. John A. Widstoe and the passing of the Lethbridge Northern Colonization Act early in 1925.

The ends aimed at in the legislation were to reduce the large land holdings, bring in settlers to occupy the surplus lands and establish intensive cultivation and diversification of crops. A schedule of flat payments "in lieu of rates" was provided for, spread over a period of 49 years, which was designed

by light payments during the early years of occupation to enable the water users to become established in a system of farming suitable to irrigation which would provide returns sufficient to enable them to pay higher amounts as time went on.

Under the Colonization Act a large number of new settlers were attracted to the district and placed on the surplus lands. Only a small percentage of the available land now remains unoccupied.

The Problem in General

The Commission in its consideration of the Lethbridge Northern Irrigation project has approached the present difficult situation from many points of view. Questions, such as the adjustment of the rates, the development of conditions favourable to home building and farm ownership and the evolution of some type of stabilized balanced farming; all are historical outgrowths of conditions and developments in the past and have deep economic implications and endless ramifications in the future. When approached in its historical and economic aspects, it has been necessary for the Commission to consider broadly the relationships of the Lethbridge Northern project to such things as the economic conditions of agriculture and written as well as unwritten agricultural policies, both pre-war and post-war, in the Province of Alberta, the Dominion of Canada and the commercial world. The decisions with reference to the inception and financial support of this project were made by the community and the Province of Alberta during the period of agricultural expansion, development and prosperity, which culminated in the post-war depression of 1921-22.

Economic conditions in agriculture are now entirely different from those which prevailed when the project was planned and built, and construction, operation and other fixed charges have to be met in a period of declining agricultural prices, intensified competition between agricultural regions and consequent economic adjustments in the whole field of agriculture.

The Commission has considered the effects of these two recent historic economic periods—the pre-war and war-time period of rising prices, agricultural and business inflation and the post-war period to the present time of declining agricultural prices, with consequent diminishing debt-paying power in agricultural commodities. The private and public irrigation policy, both in the United States and Alberta has been deeply affected by the dominating thought of the two periods and consequently the line of thought which dominated during the period

of expansion, has given way to economic conditions which are the outgrowth of present conditions. The Commission has attempted to evaluate the effect of these economic and historical changes in the Province, the Dominion and the world as they affect farm incomes which may reasonably be expected to accrue to responsible farm families using the various recommended systems of farming on the Lethbridge Northern project.

It becomes pertinent to present a very brief resume of some historical and economic facts which have been considered by the Commission and the reasoning of the Commission thereon. Beginning approximately with the close of the last century and steadily continuing until the Fall of 1920 the world witnessed a most remarkable period of rising price levels coupled with agricultural and industrial expansion, rising land values and general prosperity. The increase in city and industrial population in North America and European countries, together with changes in food habits, elevations in the standard of living and many other causes resulted in increasing demand for human food, which in turn caused rising food prices, resulting in increased demand for land and a decidedly upward trend in the values of land and agricultural resources. During this period, the consensus of opinion in farming, business and governmental circles was that the population of the world was beginning to exert a strong pressure on food supplies, such that over-production of agricultural products was impossible and consequently unlimited agricultural expansion and agricultural development were economically justified and all debts incurred in the expansion and development of agricultural production were, therefore, sound.

It was this great world economic current which brought about the unprecedented rapid development of Western Canada, and, just before it closed, the decisions on the part of the community and the Province to build and finance the Lethbridge Northern Irrigation project. In the United States it brought about the adoption of the Federal Reclamation policy, whereby considerably over a million acres of land were reclaimed through irrigation by use of public funds. It was a period during which men profited by going into debt, because as the price level rose the debt-paying power of the dollar increased and conversely the economic basis of debt increased. In addition to the foregoing, Southern Alberta had been visited by a series of drought years, soil blowing and other unfortunate circumstances which led to the belief that dry land farming at its best would be subjected to wide variations in production and

that irrigated land was needed to give stability, a dependable supply of feed and forage for livestock and diversified farm production was needed to supplement wheat.

As we look back upon this period and the conditions in Alberta we can understand how and why the decision was made for the increase in irrigated lands as well as the state of mind of the people in Alberta. Impartial historical judgment would force anyone to conclude that such action was in complete harmony and keeping with the general thought and ideas of the time. If prices and economic conditions had continued to rise, or if an economic adjustment had taken place whereby they remained stationary, probably the present difficulties over the irrigation rates would not have developed.

Since the late Fall of 1920 the world has witnessed a declining level of prices and a very drastic period of agricultural and economic adjustments in which the food-importing nations of Europe have changed as far as possible to the policy of self-sufficiency and are not taking food supplies from the exporting nations at prices commensurate with their production costs and pre-war land values. Prices in the last decade have fluctuated with the business cycle from high to low. Nevertheless, the trend has been and still is decidedly downward and the debt paying power of agricultural production has diminished so rapidly that agriculture in general since 1920 has been in deep distress.

The project now finds itself in an entirely different situation than existed when the decision was made for construction. This situation is paralleled identically by the reclamation projects in the United States and the Commission believes that the policy which has been adopted by the United States Reclamation Service when confronted with the same problem as the Lethbridge Northern is worthy of careful consideration. It believes that when considered historically in the light of economic conditions generally, the drought and unsatisfactory period during the war and the demand for greater stability of production in the Province, that the community was fully justified in its decision of 1920 to build the project. If this decision was unjustified, then practically all forward looking economic activity and financial judgment of that period was unwise because all forms of land investment and industry have suffered drastic declines and deflations during the past 10 years. It is quite likely that the present period of agricultural readjustment has not run its course and that new and unanticipated regional agricultural competition has sprung into existence. The Commission, therefore, believe that they must view the

problems of the Lethbridge Northern not under the economic terms and phsyiology when it was built and investments made but in the light of the economic situation as its exists today.

Experience of the United States Reclamation Projects

In the United States there has been an increasing cost of land reclamation through irrigation. First, the lands more easily watered were irrigated and there has been a gradual increase as lands more and more difficult to irrigate have been added to the reclaimed area. The story of the irrigated lands in the United States, whose construction cost was less than \$20.00 per acre, is entirely different from those whose construction cost averaged \$65.00 per acre. Most of the United States irrigation projects constructed since 1905 are now in the process of adjusting the fixed indebtedness on the one hand to the present net economic income on the other. Much research and study has been given in the United States to this problem of adjustment.

The following publications and documents have been consulted in connection with this phase of the report:

“Financial Settlement of Defaulting Irrigation Enterprises”—Wells H. Hutchins, Associate Economist, Division of Agricultural Engineering, Bureau of Public Roads.

United States Department of Agriculture, Circular No. 22, July, 1929.

“Federal Reclamation by Irrigation”—A message from the President of the United States transmitting a report submitted to the Secretary of the Interior by the committee of special advisors on Reclamation, presenting a new policy with reference to Federal reclamation and new plans for financing of repayment and so forth.

68th Congress, 1st Session, Senate Document No. 92, Washington Government Printing Office, 1924.

“Federal Irrigation Projects” — Letter from the Secretary of the Interior, transmitting the report of the Board of Survey and Adjustments.

68th Congress, 1st Session, House of Representatives, Document No. 201.

“Economic Survey of Certain Federal and Private Irrigation Projects”—Hearings before the Committee of Irrigation and Reclamation, House of Representatives.

71st Congress, 2nd Session, March 26th, 1930.

“Report of a Board of Economists on U.S. Reclamation Projects” — Dr. Mead, Commissioner of the United States Reclamation, Department of the Interior.

“Land Reclamation Policies in the United States”—by R. P. Teele, Associate Agriculture Economist, Bureau of Agricultural Economists. Department Bulletin No. 1257, United States Department of Agriculture.

“The Economics of Land Reclamation in the United States”—by Ray P. Teele, United States Department of Agriculture.

A. W. Shaw Company, Chicago, 1927, Chapters VI., Financing Reclamation VIII., Costs and Rates.

In submitting his economic survey to Congress, Dr. Mead stated in part:

‘What we want to do is to determine what changes and modifications should be made in the Reclamation Act that would make it more successful both to the individual who finds a home under it and to the Government itself.’

In 1902, upon the vigorous recommendation of President Roosevelt, the Congress of the United States passed the United States Reclamation Act. This Act provided for the construction of irrigation works by public funds and first contained a provision for the repayment of the cost of construction within ten years by water-users. No interest has been paid to the Government by the occupants of project lands for the funds used in construction. Later, upon the appeal of settlers, Congress extended their time of repayment to twenty years. During the war and the business depression which followed all sorts of difficulties arose: complaints were made by settlers that construction costs could not be paid and that due to the decline in the debt-paying power of the settlers’ dollar they stood on the verge of absolute bankruptcy; further, through the changed economic

conditions and changes in the competition between areas producing all those products which are raised on irrigated lands, that settlers could not maintain a standard of living equal to that in other agricultural regions and have sufficient net income left to pay construction rates based upon original cost.

The Secretary of the Interior in 1923 appointed a Fact Finding Commission to make a complete and detailed study of all United States Reclamation Projects. In submitting its report to Congress in April, 1924, President Calvin Coolidge said in part:

"Many occupants of our reclamation projects in the West are in financial distress. They are unable to pay the charges assessed against them. In some instances settlers are living on irrigated lands that will not return a livelihood for their families and at the same pay the money due the Government as it falls due.

Temporary extensions of time and suspension of these charges serve only to increase their debts and add to their hardships. A definite policy is imperative and permanent relief should be applied where indicated. The heretofore adopted repayment plan is erroneous in principle and in many cases impossible of accomplishment. It fixes an annual arbitrary amount that the farmers must pay on the construction costs of projects regardless of their production. In its place should be substituted a new policy providing that payments shall be assessed by the Government in accordance with the crop producing quality of the soil.

The probable loss and the temporary difficulties of some of the settlers on projects does not mean that reclamation is a failure. The sum total of beneficial results has been large in the building up of towns and agricultural communities and in adding tremendously to the agricultural production and wealth of the country. Whatever legislation is necessary to the advancement of reclamation should be enacted without delay. More than 30,000 water users are affected by the present serious condition. Action is deemed imperative before the adjournment of Congress that their welfare may be safeguarded."

The United States Commission in essence stated that economic conditions had fundamentally changed and that new

policies must be injected into the United States Reclamation Service.

They clearly and specifically recommended: First, the classification of all lands relative to their productive powers. Second, the discarding of the principal of cost of construction per acre as the basis of repayment, and substituting therefor the principal of income or productivity of the land: Third, that as a matter of public policy, the Government should absorb the losses which had occurred due to the mistaken policy and changes in economic conditions in the reclamation projects.

In conformity with the report of the Fact Finding Committee referred to above, Congress authorized the Secretary of the Interior to appoint a Board of Survey and adjustments to work out a careful adjustment of rates and to determine the amount of land which should be eliminated on account of non-productivity, also the sum which the productive land could pay toward its construction. In submitting the report to Congress, the Secretary of the Interior, Dr. Hubert Work, stated:

"A perusal of the report shows that on 19 of the 23 projects water users requested hearings, and that their requests have been considered in a generous spirit, which has taken into account not only the physical and other obstacles which have interfered with the success of home makers on these areas, but also the depression in agriculture which has so greatly reduced farm incomes during recent years."

The Board recommended adjustments which would result in the total loss of \$37,360,140. At this time the total advance of funds by the Government amounted to approximately \$141,800,000. (Report of the Commissioner of Reclamation of 1914) or a loss of over 26 per cent. on the original investment in which interest had not been included as a cost or a charge.

The following table gives an example of the losses recommended by this Commission in connection with the four United States Reclamation projects in Montana:

Table of construction costs and recommended losses, Montana Reclamation Projects (See Pages 59-60, House Document No. 201.)

Project	Losses recommended by United States Board of Survey, 1925.	Net construction Cost to June 30th, 1923
Milk River	\$3,824,845.00	\$6,762,083.00
Lower Yellowstone	989,271.00	3,110,449.00
Huntley	888,623.00	1,474,408.00
Sun River	257,471.00	4,245,842.00
Total	\$5,960,210.00	\$15,592,782.00

Thus, on the Montana projects the Survey Board recommended a loss of over one-third of the total investment.

Since 1927 the United States Bureau of Reclamation and Congress have been working with the water users associations, bringing into effect the recommendations of the Survey Board. Every case has been handled individually and data as to the actual suspensions, withdrawals and losses are not available. However, the adjustments made follow rather closely the recommendations outlined above.

It is thus seen that the whole public policy of the reclamation of the United States has entirely changed during the period of declining prices.

The present thought in the United States with reference to the whole policy of irrigation has shifted from the original position of reclamation paying its own way to the theory that the benefits from irrigation accrue to the community as a whole and that satisfactory methods need to be worked out for apportioning the costs on the basis of the benefits. It is now held that the benefits of irrigation development accrue to the community as a whole and the stabilized agricultural production and increased productivity pass into all the channels of commerce, providing a supply of goods from which all portions of the community are benefitted. Therefore, the cost of the reclamation should not be borne only by those farmers who operate the land but should be apportioned according to its benefit. Should the returns of these farmers benefitted by irrigation at any particular time in the future become abnormal or out of line with the general level of agriculture, the state is in a position to recapture a portion of such abnormal profit through income, increment, or, if need be, special forms of taxes.

Rate Payment Difficulties

The schedule of "payments in lieu of rates" established by the Lethbridge Northern Colonization Act provided that during

the first calendar year of occupation no rates would be collected. That for subsequent years there would be collected for "Water Service," to provide for the operation and maintenance of the works, a payment equal to the actual levy for that purpose (which has so far been \$1.25 per irrigable acre), and, for the "Water Right Payment," to repay construction costs, the following schedule of flat payments:

Water Right Schedule of Payments

Year of occupation	Payment per irrigable acre
1st.	Nil.
2nd.	Nil.
3rd.	Nil.
4th.	\$2.00
5th.	\$2.00
6th.	\$2.00
7th.	\$3.00
8th.	\$3.00
9th.	\$3.00
10th.	\$3.00
11th.	\$4.00
12th.	\$4.00
13th.	\$4.00
14th.	\$4.00
15th.	\$4.00
16th.	\$5.00
17th.	\$5.00
18th.	\$5.00
19th.	\$5.00
20th.	\$5.00
21st.	\$5.00
22nd.	\$5.00
23rd.	\$5.00
24th.	\$5.00
25th.	\$5.00
26th.	\$5.00
27th.	\$5.00
28th.	\$5.00
29th.	\$5.00
30th.	\$5.00
31st.	\$5.00
32nd.	\$5.00
33rd.	\$5.00
34th.	\$5.00

Year of occupation	Payment per irrigable acre
35th.	\$5.00
36th.	\$5.00
37th.	\$5.00
38th.	\$5.00
39th.	\$5.00
40th.	\$5.00
41st.	\$5.00
42nd.	\$5.00
43rd.	\$5.00
44th.	\$5.00
45th.	\$5.00
46th.	\$5.00
47th.	\$5.00
48th.	\$5.00
49th.	\$5.00

It appears from evidence adduced during the present enquiry that during the first two or three years of the operation of the Colonization Act the current payments, being light, did not worry the water users. The fairly generous natural precipitation which occurred produced good crops without irrigation, satisfactory returns were obtained from all the land both dry and irrigable, and prices were good. When, however, the increasing payments arrived, when at the same time dry land crops fell off, weeds reduced the returns on irrigated lands continuously cropped to grain, and hail losses occurred, their ability to meet, in future, the increasing scale of payments began to seriously concern the water users. The "rates", which in the Lethbridge Northern mean the charge for "Water Service" *plus* "Water Right", were compared with the "rates" in other irrigation projects—which include only "Water Service"—to the disadvantage of the Lethbridge Northern. The flat basis of assessment whereby all lands are charged equally, regardless of their productivity, was claimed to be inequitable. The ultimate cost of the land plus water was claimed to be excessive and it was argued that though the schedule payments were regularly met no equity was being acquired in the land; that the settler was, in spite of his best efforts, getting further behind each year instead of ahead.

In 1929 the Government of Alberta authorized a complete survey of the lands in the project for the purpose of classifying or rating each parcel according to its productive value as irrigable land, taking into consideration the nature of the soil, the topography, the location with respect to railway, etc.

As previously pointed out, the United States Reclamation Service some time ago found it necessary to classify all the lands in its various projects in the same manner. Private companies having irrigable lands for sale in Southern Alberta have classified them on a similar basis with the result that the Canadian Pacific Railway company has within the last couple of years materially reduced prices on the greater part of its lands.

The Attitude of the Water Users

The various meetings held throughout the district brought forth a great deal of information, but in addition to the information brought out they served a very valuable purpose in enabling the Commission to study the general morale and the attitude of the people towards irrigation.

In dealing shortly with this phase of the question it appears advisable to discuss separately the original district and the Macleod area.

It is unnecessary to point out that unless the water users are imbued with a spirit of hopefulness their efforts are likely to be half-hearted and fruitless. The testimony was in general straightforward and fair, but, making all due allowance for possible exaggerations and probable magnifying of difficulties which might be expected under the circumstances, it was obvious that the great majority were, under the present terms, working without hope of success and with the feeling that instead of progressing they were losing ground; that the existing plan of payment was evidently looked upon with apprehension and a feeling of insecurity and that their only hope lay in the belief that an adjustment would be made.

In spite of this attitude, however, there was apparent throughout the original district unanimous confidence in the value and benefits of irrigation, a desire to stay in the district and to establish homes there and a belief that no better opportunity for home making could be found anywhere, provided the cost could be made reasonable.

In the Macleod area it was contended that climatic and soil conditions differed materially from those in the original district, making the value of irrigation relatively less there, and in addition to this it was contended that certain townships had been included against the desire of a majority of the land owners.

The general sentiment in the Macleod area was against irrigation.

Experience of Private Projects in Alberta

Thirty years ago an irrigation project, developing a large block of land south and east of Lethbridge commenced operations. This project has since come into the hands of the Canadian Pacific Railway Company who themselves, early in the present century, undertook development of another large area immediately east of Calgary and, a few years later, developed a large area centering in Brooks. An English Company, now the Canada Land and Irrigation Company, also developed a large area west of Medicine Hat.

In considering the Lethbridge Northern problem we are fortunate in having available for study the experiences of these companies over a considerable period of years. The projects were entered upon from a business standpoint and a successful outcome for the enterprises was dependent upon disposing of their lands within a reasonable time. This could only be possible if the purchasers of land met with success. The basic problem has, therefore, been identical with that in the Lethbridge Northern, viz., to put people on the land on terms under which they had hope of success.

It is not necessary to go into the history of the experience of these companies in dealing with their irrigated lands. The practical result of those experiences is what interests us and it is safe to assume that the present policies of these companies are the result of very careful consideration and their conclusions are based upon the results of a good many years of practical experience. With a transportation company such as the C.P.R. the development of the country served by its railway lines brings indirect returns from irrigation but it is probably safe to say that as business propositions, apart from such considerations private irrigation projects have been failures. The Commission does not know of any such enterprise in Canada or the United States which has been anything else.

The conditions in these private projects so far as soil, topography and climate are concerned are practically the same as in the Lethbridge Northern District. There is good land and poor land in all of them. In short, values in one project are fairly comparable with values in the others. There is still a considerable quantity of land available for settlement in the C.P.R., eastern section, and in the Canada Land and Irrigation Company's project. The Canadian Pacific Railway Company has within the last three years made a careful examination and reclassification of all its lands considering the soil, topography,

location with reference to market, etc., and has repriced all its lands. The maximum price for the best irrigable land, including water right is now \$50.00 per acre. The average price is under \$35.00.

The Canada Land and Irrigation Company has also valued its lands and the prices for similar lands in both projects are on a parity.

The purchaser of land from either of these companies buys irrigable land, including the water right, at a fixed price, upon an amortization plan at 6 per cent. interest. Any payment made over and above the interest charge in any year applies to reduce the principal sum of his indebtedness.

Actual Production Under Irrigation

Records show that the average annual gross return for the past nine or ten years covering all the large irrigation projects in Alberta is probably less than \$25.00 per irrigable acre.

It is true that during this period the class of farming which all authorities agree is absolutely necessary for ultimate success on irrigated land has not been practised as widely as could have been desired. Grain growing has prevailed to an extent that cannot go on in future. Continued cropping of irrigated land to grain results after a few years in rapidly diminishing returns due to the encroachment of weeds and temporary exhaustion of the soil.

In the course of the investigations of the Commission a number of projects in Montana and Wyoming were visited and studied. The Lower Yellowstone project of the United States Reclamation Service is situated on the east boundary of Montana about 75 miles south of the international boundary. It lies about south of Regina. As compared with the Lethbridge Northern the altitude is at least 1000 feet lower and the location further from the mountain and further south, so the district has climatic advantages over conditions here. The farmers in the Lower Yellowstones have settled down to a basis of real diversified farming. Very little grain is grown. The chief crops are beans, beets, potatoes and alfalfa. Livestock, chiefly sheep, hogs and dairy cattle are common. A large sugar mill is located at Sidney in the centre of the project. Cheap range land exists in the district along the valley of the Yellowstone River. The district appears, and we believe is, in a prosperous condition, to all appearances approaching the ideal towards which

we look for the Southern Alberta projects. The system of payment to the Reclamation Service requires that accurate records of gross annual returns be kept. It is a highly significant fact that, in that district, which while comparatively close to the Lethbridge Northern and thus to some extent comparable has nevertheless considerable advantage, the records show that the gross average annual production for the past ten years, after eliminating entirely certain of the poorer lands, is only \$30.00 per acre.

In the Shoshone project in Northern Wyoming, whose advantage in latitude as compared with Southern Alberta is somewhat offset by an altitude of over 4,000 feet, the Garland division is practically completely settled and diversified farming is the rule. Beets, beans and potatoes are chief crops with alfalfa and livestock but practically no grain. The records of production here also show an average gross annual production of around \$30.00 per acre and this too after eliminating the poor lands.

With such actual records before us there is no need to speculate upon the increased values of production which might be brought about in the Lethbridge Northern by proper farming methods. The great value of irrigation would appear to be in stabilizing the farming industry in these semi-humid districts and enabling a steady return to be obtained each year regardless of the natural precipitation. It is beyond question that proper farming methods must be adopted; but with the purpose of preventing the returns from rapidly diminishing and of maintaining them at past standards.

A number of water users expressed the opinion at the meetings held in the district that the only hope of success was to have the charges put on a basis under which they could afford to summer-fallow their land. The Commission wishes to go on record as being distinctly in disagreement with such views and as reiterating all that has been said as to the necessity of crop rotation and diversification on irrigated land if the best is to be made of it. The water user who persists in grain farming and in using dry land methods is not deserving of sympathy in case of eventual failure.

Another Factor to be Considered

While the question of what can be produced ordinarily would be a large factor in determining what can or should be paid for the irrigation, there is, in the case of the Lethbridge Northern, another factor which enters into the calculations and

which, in spite of the importance of production, seems to be the controlling factor.

A very substantial percentage of the Lethbridge Northern lands have come into the hands of the Government. The only direct returns which are to be obtained must come from the land and will be greater or less in proportion to the success in establishing permanent settlement. While the lands have to a large extent been disposed of it seems clear that many of the water users are dissatisfied and it is claimed that many are likely to leave as the higher payments become due.

The man desiring to farm under irrigation naturally wishes to acquire land on the best possible terms and the relative costs of irrigated land on the Lethbridge Northern and that elsewhere are being compared. In disposing of Lethbridge Northern lands the Government is in direct competition with the private companies. That the Government is already quite aware of the importance of this phase of the situation is clear, as the Commission was instructed to bear this particular point in mind in making its investigation. It is plain that unless the price of land in the Lethbridge Northern is somewhere nearly on the same level with competitive land it will be difficult to obtain new purchasers or to hold many already there. Regardless of the possibilities of production it appeared clear to the Commission that the most important factor and probably the controlling one is this competitive price. A study was, therefore, made in this connection which is of interest.

Relative Costs (Lethbridge Northern vs. C. P. R.)

As previously stated the maximum price for the best C.P.R. land in their Eastern section is \$50.00 per irrigable acre including water right. For the non-irrigated portions of a parcel \$5.00 per acre is charged. The whole farm is sold for a fixed price which is computed from these basic prices. For a quarter section of the best land having 100 acres irrigable (which is a reasonable average), the total price would be

100 acres at \$50.00	\$5,000.00
60 acres at \$ 5.00	300.00
Total	\$5,300.00

Interest is 6 per cent. and on their amortization plan of sale the purchaser undertakes to pay 7 per cent. of the purchase

price annually which will retire the debt in a little under 34 years. If he pays more than the agreed amount it reduces his principal and automatically his annual payment or it shortens the term. He may at any time pay off the unpaid principal and have clear title including the water right.

In the Lethbridge Northern District the land alone, exclusive of the water right, has been sold generally around \$15.00 per acre, including all land both dry and irrigable, on a crop payment basis, interest 6 per cent. In addition to this, for the water right, the purchaser is required to pay the amounts shown on the schedule quoted earlier in this report. These schedule payments are collectable in much the same manner as ordinary taxes but under even more stringent provisions as to forfeiture of the land for non-payment, and rates in arrears bear penalties up to 10 per cent per annum. On the land contract the interest is 6 per cent. and the purchaser may reduce his principal by payments at any time. Under the Water Right schedule he may also reduce his obligation by advance payments at any time but as the amount which will be accepted in any year in satisfaction of the future Water Right payments is the "present worth" of all the future payments, a condition arises which the average water user finds difficulty in understanding. When he goes on the land the amount of his water right obligation is \$55.00 per irrigable acre, he pays no water right during the early years and the "present worth" increases as time goes on with the result that after being on the land for five years and having met every payment required and he becomes interested in reducing his water right obligation, he finds that it has increased to \$65.00 per acre and, after fourteen years, to over \$72.00 per acre.

The complaint made that in the Lethbridge Northern no equity is acquired in the land is largely due to this increase in the water right obligation and to the forfeiture possibilities for non-payment of the water right levy.

A man purchasing a good quarter section in the Lethbridge Northern with 100 acres irrigable would pay:

Land 160 acres at \$15.00 \$2,400.00
plus the water right payments as per schedule.

Looked at casually this price as compared with \$5,300.00 for identical land from the C.P.R. appears attractive, but when the necessary annual payments in each case are compared a different story appears, and, when all is said and done, it is the amount to be paid annually per acre that is of greatest importance to the water user.

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Lethbridge Northern Land and Canadian Pacific Land

January 1st, 1931.

Purchase

LITERATURE

Water Service \$1.25 per annum
Price \$2400.00 plus Water Right payments.

Canadian Pacific Railway Company

Water Service \$1.25 per annum
Price \$5300.00 including Water Right.

Date	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Remarks	
Jan. 1, 1931	\$2400.00	-	\$250.00	-	-	-	\$5300.00	-	Total Capital and Water Right	
" 1932	\$144.00	106.00	nil	\$3250.00	\$250.00	nil	\$368.00	-\$25.00	Amount of unpaid principal or balance owing on Land Contract	
" 1933	137.64	112.36	nil	250.00	2181.64	nil	544.08	25.00	Paid principal or balance owing on Land Contract	
" 1934	130.89	119.11	nil	250.00	2062.53	nil	5516.48	25.00	"	
" 1935	123.75	126.25	200.00	450.00	1936.28	330.99	5397.47	450.00	"	
" 1936	116.17	133.83	200.00	450.00	1802.45	323.85	5271.32	450.00	"	
" 1937	108.14	141.86	200.00	450.00	1660.69	316.28	5137.60	450.00	"	
" 1938	99.63	150.37	300.00	550.00	1510.22	308.25	4895.85	550.00	"	
" 1939	90.61	159.39	300.00	550.00	1350.83	293.75	4639.60	550.00	"	
" 1940	81.05	168.95	300.00	550.00	1181.88	278.37	4367.97	550.00	"	
" 1941	70.91	179.09	300.00	550.00	1002.79	262.08	4080.05	550.00	"	
" 1942	60.17	189.83	400.00	650.00	812.96	244.80	3674.85	405.20	"	
" 1943	48.78	201.22	400.00	650.00	611.74	220.49	3245.34	429.51	"	
" 1944	36.70	213.30	400.00	650.00	398.44	194.72	2790.06	455.28	"	
" 1945	23.90	226.10	400.00	650.00	172.34	167.40	2307.46	482.60	"	
" 1946	10.34	172.34	400.00	582.68	Paid	138.45	444.23	532.68	1863.23	"
" 1947	Land Contract	500.00	500.00	500.00		111.79	388.21	500.00	1475.02	"
" 1948	completed, but	500.00	500.00	500.00		88.50	411.50	500.00	1063.52	"
" 1949	Water right pay- ments continue	500.00	500.00	500.00		63.81	436.19	500.00	627.33	"
" 1950		500.00	500.00	500.00		37.64	462.36	500.00	164.97	"
" 1951 until 1980		500.00	500.00	500.00		9.90	164.97	174.87	Paid	"
" 1952		500.00	500.00	500.00						"

In 18 and a fraction years this man has clear title to his land including the Water Right while the Lethbridge Northern man has to continue paying \$500.00 per year for 30 years more.

In 1951 when the C.P. man gets clear title the Lethbridge Northern man would still require \$6755.00 cash to pay out.

If the C. P. man after getting his land clear invested each year at 5 per cent. an amount equal to the Lethbridge Northern
man's payment he would have over \$31 000 00 in the bank before the Lethbridge Northern man got clear title, or

He could purchase a second quarter section and have clear title when the Lethbridge Northern man still had 13 years to man's payment he would have over \$21,000.00 in the bank before the Lethbridge Northern man got clear title.

He could then purchase a third quarter with 80 acres irrigable and get clear title before the Lethbridge Northern man continue paying on his first quarter, or,

The total annual payment is made up of several parts as follows:

<i>C.P.R.</i>	
<i>Water Agreement</i>	plus <i>Land Contract</i>
(Operation and maintenance charges.)	(Interest and principal, including Water Right.)
<i>L.N.I.D.</i>	
<i>Water Service</i>	<i>Land Contract</i> plus <i>Water Right Payment</i>
(Operation and maintenance charges.)	(Interest and principal.) (As per schedule.)

The operation and maintenance charge has so far been identical in each case, i.e., \$1.25 per irrigable acre per annum.

The interest on the land contract has been 6 per cent. in each case. But the similarity between the two does not extend much further.

In the C.P.R. case the payment for water right goes with the price of land. In the Lethbridge Northern it must be paid for additionally.

In order to get a proper picture of the comparative positions the following table has been prepared.

It shows *on the left side* the payments which a Lethbridge Northern purchaser would make annually assuming that he purchased January 1st, 1931, and that he was able to make a payment of \$250.00 each year on his land contract until it was completed and that he made his water right payments each year. The operation and maintenance charges being the same in each case have been omitted from the table for the sake of simplicity.

On the right hand side is shown what would be accomplished by a man who bought the best C.P.R. land and made exactly the same total annual payments as the Lethbridge Northern man. It will be noted in studying this side of the table that the first three year's payments of the C.P.R. man are insufficient to meet even the interest on his contract and the deficiency has been added to the principal sum which, during that period, increases. But from that time on he rapidly gains, reduces the principal, and is all paid up in about 18 years at which time the Lethbridge Northern man still has thirty years to keep on paying.

It seems obvious in the face of these figures that the cost in the Lethbridge Northern is altogether out of line with that for similar land being offered by private companies.

Resident and Incoming Water Users

There are in the Lethbridge Northern District two classes of water-users. The original settlers who were there prior to the inception of the irrigation project, known under the Colonization Act as "Resident Water Users," and new-comers, purchasing either surplus holdings of the resident water users or lands which have come into the possession of the Colonization Manager for the Government, and known as "Incoming Water Users."

The discussion of the problem so far has been with regard to the appeal to the new settler or incomer. It goes without saying that if the cost to the new comer needs revision, the cost of the water right to the resident water user must be dealt with on an equivalent basis. There could be no justification for reducing the charges to a new-comer and at the same time attempting to make the resident water user pay in full.

It is quite natural that every one in the Lethbridge Northern, regardless of his ability to pay, might be expected to support a movement for the reduction of rates. Making full allowance for this human and excusable tendency, however, it seems quite clear that a very considerable percentage of the water users in the District, both resident and incoming, are honestly of the opinion that they cannot meet the payments called for by the schedule.

Summary of the Present Difficulties

After careful study of all the facts adduced with respect to the Lethbridge Northern and other irrigation projects, and with respect to agricultural conditions generally, the Commission has come to the following conclusions:

1.—That the plan of payment is not understood, particularly the increasing water right obligation, and the rates which in this district include both the water right and the water service charge are compared (with disadvantage to the Lethbridge Northern) to the water charges in private projects which cover only service. The collection of the water right payment as a "rate", subject to rate enforcement proceedings, has created a feeling of insecurity and dissatisfaction. In spite of this it does

appear that generally speaking there is throughout the greater part of the district a real desire to establish homes and real confidence in the benefits of irrigation if the conditions are made more reasonable.

2.—That the cost of land and water in the Lethbridge Northern Irrigation District is so much higher than the price of similar irrigable land in other projects as to be entirely out of competition.

3.—The value of the Water Right for stock watering, domestic, garden and tree growing purposes and all those things which make the difference between a home and a mere stopping-place is appreciated and valued and the commission is convinced that if put on a basis which will inspire the people with confidence in the future the district will develop successfully.

4.—The records of production in those projects in the United States which are properly comparable climatically to the Lethbridge Northern and in which the farmers have adopted the class of farming suitable to irrigation indicate that the schedule rates here, which will eventually reach at least \$6.25 per irrigable acre per annum, could not be paid and at the same time enable the water user to maintain a standard of living equal to that of other farmers. (See Senate Document No. 32, 68th Congress, 1st Session; also Report on "The Economic Limits of Costs of Water for Irrigation" by Teele & Ewing, U.S. Department of Agriculture.)

5.—That some of the lands in the district are capable of considerably greater production than others and that the present plan of assessing all on the same scale is inequitable.

6.—That it is necessary not only to make the cost of the land reasonably comparable to that of other available irrigable land in the Province but also to make the conditions such that the water users will be able to proceed with that spirit of hope and confidence without which no permanent success can be achieved.

PART II. Remedies

It is of course easier to see faults in the existing system than to determine the best remedies, however, the necessity for two things seems obvious.

- (1.) A reduction in the scale of charges.
- (2.) A simpler plan of payment.

The Scale of Charges

It is now frankly recognized by irrigation economists that the early plan of charging the cost of irrigation wholly to the land itself was improper. Irrigation development brings very material benefits to all neighbouring communities and the citizens thereof, to transportation companies and to the Province itself, and a proper basis of assessment should recognize all these benefits and distribute the costs among them. This principle is now universally recognized and there is no doubt that in future irrigation development on this continent it will be applied.

However, in the Lethbridge Northern Irrigation District the cost was, in accordance with all practice at the time charged wholly against the lands. It is not possible now to make levies against all the benefited interests but there is nevertheless clear justification for a reduction of the charges against the lands.

In considering the question of charges it was, before very long, apparent to the Commission that the problem could be attacked in two ways.

- (1.) Along the lines of determining possible production and consequent ability to pay.
- (2.) With reference to the competition with other irrigable lands in the Province.

In disposing of the surplus lands in the District the Government is in direct competition with lands owned by private companies. It is clear that if settlers are to be obtained and retained in the face of this competition there must be no marked disadvantage in cost. As it appeared that the present prices of company lands had been arrived at by a consideration of relative productivity it therefore became clear that the second method of attack was the proper one.

To make the best of the situation the land must be kept settled and producing and to accomplish this the competition of other irrigated lands in the Province must be met. This is the controlling factor in the situation.

The maximum price for the best C.P.R. irrigated land is \$50.00 per acre. The lands have all been classified and valued as irrigable land considering soil, topography, location, etc., and priced from \$50.00 per acre downwards according to relative values. The average price is below \$35.00. The prices of the Canada Land and Irrigation Company are on a parity. These land prices include the water right. The cost of the Lethbridge Northern water right plus the cost of the land must be brought to the same level.

Fortunately a classification of the lands in the Lethbridge Northern district has already been made and a relative percentage value allotted to each parcel, 100 per cent. representing ideal irrigable land. If the cost of 100 per cent. land be fixed the value of any parcel is readily determined. This classification also takes into account the value of the water right per acre. This factor is deserving of some comment.

It is unquestionably true that a quarter section having a water right has, although only one acre be irrigable, a considerably higher value than another quarter similar in all respects but without a water right. It is also recognized and agreed that in Southern Alberta, which is only semi-arid, a comparatively small irrigable area, as an assurance of feed in dry years, is very valuable and justifies a comparatively high *per acre* cost. In other words the smaller that the irrigable area in a parcel is the greater is its per acre value. In the Lethbridge Northern special land classification this has been recognized and a factor applied, the result of which is to rate a parcel having a small irrigable area relatively higher than one having a larger area of the same class of land. The Commission considers this principle to be sound. It is accepted generally throughout Southern Alberta, and relatively high per acre irrigation charges are being paid on irrigable areas of 40 acres and less per quarter section.

The Plan of Payment

In order to put the Lethbridge Northern land on a parity with the competitive lands not only must the cost be adjusted but the plan of payment must be such that the complaint of "no equity" is completely answered.

If the water right were disposed of in the same manner adopted by private companies this would be accomplished. There appears to be no reason why this can not be done.

This principle is simple and, while the explanations with respect to its possible application may, to those unacquainted with the matter, be a little hard to follow, this is due not to the remedy but to the complexity of the present system to which the remedy is to be applied, which is so intricate as to preclude simplicity in discussion.

It is not the intention here nor is it deemed part of the duty of the Commission to lay down in detail plans for working out of every case that may arise. We believe that any legislation which may be passed should be so framed as to allow a considerable amount of elasticity to the administration in the application of the principles advocated and in their working out with reference to particular cases. It is probably well to say, however, that consideration has been given to the fact that the application of the Commission's recommendations will involve changes in all existing contracts for land sales and also require the making of new contracts for land sales and also require the making of new contracts with the resident water users, and the matter has been gone into sufficiently to satisfy the Commission that the suggestions are workable.

The various kinds of cases which would have to be dealt with may be classified as follows and suggestions as to possible methods of dealing with each class are given:

1.—*Lands owned by the Colonization Manager.*

Any lands still undisposed of may be sold as irrigable land, inclusive of the water right, under an agreement for sale similar in form to that used by the private companies.

In the case of lands already sold under agreement the purchaser could have the option of retaining his present contract or exchanging it for a new one on the proposed new basis. No difficulties need be anticipated here.

2.—*Lands privately owned and occupied by the owner as a "home place."*

It would be necessary in these cases to sell the owner a water right appurtenant to his land. The agreement for such sale should probably constitute a lien on the land. The price at which the water right should be sold in each case would be determined as set forth hereinafter under the heading "Water Right Values."

3.—*Lands privately owned and occupied as a "home place" by a "purchaser" under agreement for sale.*

In these cases, as the water right is appurtenant to the land, the registered owner must be dealt with as well as the man on the land and there will be three parties to the transaction. The whole object of the present and previous adjustments is to enable the man on the land to make good. The benefits of lowering the cost of the water right must go to him. If the price of the land as set forth in the agreement for sale, when added to the value of the water right determined in accordance with this report, produces a total price for land and water greater than has been decided upon as proper, it would be reasonable to require that the adjustment of the water right value be made contingent upon a satisfactory adjustment in the land price.

An agreement could then be entered into, including both the registered owner and the purchaser, for the sale of the water right appurtenant to the land in the same manner as in (2).

If the land price should be considered unsatisfactory and likely to prove onerous to the "purchaser", and the registered owner will not make satisfactory terms, then the privilege of purchasing the water right on the new terms should not be extended to him and the matter can be left to adjust itself under the Irrigation Districts Act, which will soon happen, for the following reasons:

In these cases the present "home place" privileges under the Colonization Act have been extended to and are held by the "purchaser", not by the "owner". If the purchaser is content to proceed under the existing system well and good, he should have the option of doing so. If, however, he is anxious to come under the new plan and the owner is adamant the home place privileges can be cancelled with the purchaser's consent and with the avowed intention of protecting him. The arrears of the regular rates will then become due and, if they are not paid by the owner, (and it is highly improbable that they will be) the land will be forfeited by the regular rate enforcement proceedings of the Irrigation Districts Act, will become the property of the district, and can be disposed of to the "purchaser", already there, on suitable terms.

While such action may, on first consideration, perhaps appear drastic it is to be remembered that it need only be invoked in extreme cases. This investigation and previous ones have come about because of the fact that the whole scale of value has come down. A loss has to be taken. It is right and proper

that all concerned shall take their share of that loss. There need be no hesitation whatever in allowing the provisions of the Irrigation Districts Act to apply as originally intended in those cases where some one—particularly some one not on the land—is holding out for the old scale of values.

While this class of cases is the one in which it is possible for the greatest difficulties in adjustment to arise the Commission is of the opinion that in the actual working out of the matter the parties will, in most cases, be willing and anxious to assist in arriving at an agreement satisfactory to all concerned.

Unquestionably considerable latitude in making settlements must be granted to the administration, who must also have the full support of the Government in those cases where a firm stand has to be taken.

This explanation is not intended to indicate exactly what should be done in every case, but to show that every case can be put on a simple basis within a reasonable time.

Perhaps this is as good a place as any in which to point out that cases may be found, as in all irrigation projects, where the land purchaser is clearly unsuited to irrigation farming and will never make good at it under any conditions. When it is clear that this is the case it will be kinder to the man and better for all concerned not to encourage him to continue.

4.—Lands privately owned upon which the regular rates have been paid.

In such cases the owners could be given an opportunity of purchasing the water right on the new terms and be given credit thereon for those parts of their previous payments which have been for “sinking fund” payments.

5.—Lands owned by the district subject to first mortgages within the meaning of the Act.

Provision already exists for adjustments under the Colonization Act to be made in these cases, a few of which still remain.

Generally speaking a compromise will have to be arrived at and power to make such compromise should be given. If the recommendations here made are put into effect it means that the taxpayers of the Province as a whole will be called on to assume a considerable part of the cost of the irrigation works. The only justification for them doing so is to make it possible for *the man on the land* to make a success of his venture, receive

some remuneration for his labours and become an asset to the community. The relief could not be justified if it went for the benefit of creditors. The mortgages were placed on the land on the basis of the dry land values then accepted. It would seem reasonable that the values here established should govern adjustments with mortgages just as much as with the owners who have sold under agreement. The principles applied to owner's cases should also apply to mortgages.

6.—Privately owned lands upon which the water right has been paid in advance.

These cases are not numerous but it is clear that the man who has paid in advance should not be discriminated against.

The price should be adjusted to the new scale and proper refunds made.

There may be numerous variations of some of the above classes of cases and the suggestions made are not intended as laying down hard and fast rules. The object has merely been to show that the proposed general plan is workable. As previously stated the Commission is of the opinion that sufficient elasticity should be provided so that in applying the general principle any case may be dealt with as it arises.

It is probable that in making new contracts consideration should be given to the present situation in the farming industry in general. Wheat is still the main crop in the Lethbridge Northern. The unexpected and unprecedented drop in grain prices has placed many water users in a difficult position, at least temporarily. Latitude should be given the administrative authorities in arranging contract payments to suit the circumstances of the particular case.

It would appear, however, that with values established for the land and the water right most of the problems can be reduced to fairly simple terms.

Total Values and Water Right Values

If the land is to be disposed of under a form of agreement for sale including the water right, and if in some cases the water right alone is to be sold under agreement to those who already own the land, it becomes necessary to determine the combined value of the land plus the Water Right and also, in certain cases, the value of the Water Right alone.

The Commission has come to the conclusion with respect

to the combined value that any two parcels of land which are similar as regards soil, topography and distance from market have equivalent combined values no matter where they may be situated in the Lethbridge Northern project. The combined value has two components, the land value by itself, and the value added by the water right. The relationship between these two components is different in different parts of the District.

The experience of the last 20 years has proved beyond doubt that dry land in the "Macleod area" or in that vicinity has a greater value than dry land in the Iron Springs-Turin District, or in that vicinity. Climatically the two areas are different. Meteorological records are not available for the Eastern part of the project, but records kept at the Town of Macleod show that for the last 15 years the average annual precipitation has been slightly greater than at the City of Lethbridge, which is the nearest point to Iron Springs and Turin where records are available. The difference in grain yields between the Macleod area and the Iron Springs-Turin area during the past 15 years have been much greater than the difference in precipitation between Macleod and Lethbridge would seem to indicate. The value added to the land by irrigation is, therefore, less in the Macleod area and consequently the value of a water right appurtenant to a parcel of land in that area becomes a smaller part of the total value of the combined land and water than in a similar parcel of land in the Eastern part of the project.

In attempting to carry out the instructions given to it the Commission feels that with regard to the particular reference in the instructions to the "cost of similar land elsewhere," as compared to the lands of the Lethbridge Northern District, a maximum price for choice irrigable raw land including the water right should be \$50.00 per acre which is the same maximum price that has been adopted by the Canadian Pacific Railway Company and similar also to that adopted by the Canada Land and Irrigation Company.

The value of the irrigable land inclusive of Water Right in any parcel is at once readily determinable by applying to this basic value the rating given to that parcel by the "Table of Ratings" in the classification of the lands of the District made under instructions from the Provincial Government in 1929. The separate water right value in any parcel is to be determined according to a graduated scale which makes it a greater part of the combined value as one proceeds from the Westerly to the Easterly part of the district. After careful consideration of the

matter the Commission has concluded that in the West end or Macleod area, that is in Ranges 25 and 26, the Water Right value should be taken as $4\frac{1}{7}$ of the total combined value of land and water as determined for the particular parcel; in Range 24 and the West half of Range 23, the water right value is to be taken as $5\frac{1}{7}$ of the total value; from the centre line of Range 23 East the value of the water right is to be taken as $6\frac{1}{7}$ of the total value. These are arbitrary figures, but it seems quite necessary to establish a definite method of determining the water right value and the Commission wishes to point out that these relationships were only decided upon after most careful consideration. We believe that the resulting determination will produce as fair and equitable values as can possibly be expected and sufficiently close to true facts for all necessary purposes of administration.

Operation and Maintenance

In the report of Geo. Anderson, C.E., who originally advised the Government in connection with the Lethbridge Northern District the probable cost of operation and maintenance was estimated at \$1.75 per irrigable acre per annum which included provision for a fund for replacement of structures as replacements became necessary. This estimate was based on the experience of other projects of a similar size and nature. During the early years of operation of a project with new structures and clean ditches, maintenance costs are naturally lighter than they are bound to become later; also the assessable area is bound to decrease as time goes on by reason of re-classification, extension of seepage and various other causes. Since operation started the assessable irrigable area in the district has been decreased by almost 10 per cent. and the process is still going on. As the assessable area decreases the levy per acre must increase if the same amount of money is to be raised. The operation and maintenance levy (the water service charge) has so far been only \$1.25 per irrigable acre and some provision has been made for replacements. It is not to be expected that the low cost of operation and maintenance which has prevailed during these early years with new works, can continue as the works grow older and the ditches silt up. As a matter of fact the Commission is advised that ditch cleaning and replacements are now beginning to be a considerable item of expense. No matter how low water service charges are they become onerous unless good service is provided. That can only be done by keeping the ditches and structures always in condition to deliver the necessary quantity of water. The Commission was impressed, at the meetings held

throughout the district, with the frequent voluntary testimony as to the excellence of the water service. It is inevitable that in a system as large as the Lethbridge Northern delays and difficulties must sometimes occur but it seemed everywhere evident that such troubles were being kept down to a minimum. This is as it should be but it can only be accomplished by keeping the system in proper condition to deliver water and, while due attention must be paid to economy in expenditures, it is poor economy to reduce costs at the expense of good service. Higher rates for good service are easier to justify and to collect than lower ones for bad service.

In the case of company land the service charge is provided for at a fixed amount by the water agreement. In the C.P.R. Eastern section, it is \$1.25 per irrigable acre. With the Canada Land and Irrigation Compay it is \$1.50 per irrigable acre. These rates are fixed by the agreement despite the fact that in neither case, we are advised, has the amount charged equalled the cost to the company, or, as a matter of fact, come near to it. In the A.R. & I. section of the C.P.R. it is only \$1.00 per acre but water is only delivered at the main canal and the whole cost of lateral ditches for both construction and maintenance must be borne by the water users themselves. In the Lethbridge Northern the rate of \$1.25 which has so far prevailed is not fixed but will rise if operation and maintenance costs rise. That they are likely to do so would seem probable from a comparison with operation and maintenance costs in comparable projects whose conditions are no less favourable.

Since the recommendations made herein are based upon the cost of competitive lands and as the cost to the water user means the total amount he has to pay annually, including the cost of water service, a discussion of this item has seemed necessary.

The Commission believes it to be a sound principle that the water user should bear the water service charge and that this charge must be paid annually. The adjustments here recommended refer to the water right payments only. As pointed out previously the original estimate for water service charges was \$1.75 per irrigable acre. The Lethbridge Northern management is of the opinion that good service can be maintained at a cost within that estimate. So long as this can be done any necessary increase in the Lethbridge Northern water service rate will not make sufficient difference in the total charges as compared with Company land to materially affect or change the situation.

Credits

One of the complaints made by the water users is that they have no credit due to the lack of equity under the existing plan of payment.

Under the Colonization Act very generous provisions exist for direct loans to the water users. This was necessary for development because undoubtedly the ordinary lines of credit have been closed to them. If an adjustment is made along the lines here suggested difficulties as to credits should to some extent disappear as the Lethbridge Northern water user will be relieved of a considerable part of the obligation against him and his land.

The commission, however, desires to emphasize the fact that a certain amount of credit is not only desirable but absolutely necessary to enable the farmer who is without means to get established in a proper system of farming, including the purchase of livestock. While under the suggested plan credits may be improved it is quite probable that the provisions of the Colonization Act with regard to loans will still have to be exercised for some time or else some other means established for extending credit where it appears desirable.

Recommendations

Summarized the recommendations of the Commission are as follows:

1.—That provision be made to dispose of land in the Lethbridge Northern *inclusive of the water right appurtenant thereto* under an ordinary form of agreement for sale similar to the manner in which irrigated lands of private companies are disposed of and that those who have purchased land under the existing system be given the alternative of taking contracts under the new plan or proceeding under their present contracts.

2.—That in the case of privately owned lands the water right be sold under terms similar to those provided for land sales, as an alternative at the owner's option to the present scale of payments for the water rights.

3.—That the Table of Ratings in the land classification report made to the Government by the Irrigation Council in February of 1930 be (subject to any necessary correction of palpable errors or omissions which may be found therein) adopted as a basis for valuating and pricing each parcel of land inclusive of the water right, using as a basic price for 100 per cent. land a maximum value of \$50.00 per irrigable acre.

4.—That the separate value of the water right for any parcel be determined in the manner set out herein under the heading "Total Values and Water Right Values".

5.—The request that lands in certain townships in the Macleod area be entirely excluded from the district on the grounds that they were illegally included is considered to be outside the jurisdiction of this Commission.

It will be noted, however, that the claim with regard to irrigation being of less value in that area has been recognized and provided for in these recommendations by the lower water right value attributed to it.

6.—That pending final arrangement for putting these recommendations into effect, provision should be made to deferate enforcement proceedings with respect to *Water right payments* and also to defer the application of penalties on such arrears in view of the proposed reduction but payment of the water service charge should be insisted on and rate enforcement with respect thereto proceeded with.

To give a general idea of the effect of these recommendations it may be said without going into detailed explanations that it will make the price of average irrigable land in the Lethbridge Northern Irrigation District, including water right, something less than \$35.00 per acre and the price for the water right alone on average land will range between \$18.00 and \$28.00 per irrigable acre.

The Commission is of the opinion that if adjustment is made along the lines recommended, it will revive that spirit of confidence among the water users which is so necessary to the success of the District.

Time Required

It is perhaps well to point out that the application of the principles recommended here to all the lands in the district will take time. The suggested change in the forms of contract must necessarily be at the option of the contract holder in each case. Many adjustments will doubtless be necessary, each case must be dealt with separately, on its merits, and the present Colonization Act probably cannot be rescinded until all undertakings thereunder are either completed or cancelled.

The New West Irrigation District

The New West District comprises a small area, less than half a township, with about 4,500 acres irrigable. It was formed in 1922 and debentures to the amount of \$209,500 were issued July 1st, 1923. They run for 40 years and bear 5 1-2 per cent. interest. Sinking fund payments are to be made annually from 1934 onward. The debentures are fully guaranteed by the Government.

The district obtains its water from the Canada Land and Irrigation Company and pays an annual water rental of \$1.25 per irrigable acre.

The district is distant from shipping point 6 miles at the nearest and 15 miles at the farthest. It is at present not within reach of a sugar factory nor a suitable market for cream. The diversity of farming activities is, therefore, somewhat limited.

The interest on the debentures amounts to over \$11,500 annually which means a charge of at least \$2.55 per irrigable acre. Operation and maintenance must be carried on and the rates this year, including interest, water rental and operation and maintenance expenses, amount to \$4.55 per irrigable acre. In 1934 sinking fund payments will commence which will add about 83c to the annual rate or a total rate in the neighbourhood of \$5.40.

The district lies in a part of the country where natural rainfall is usually insufficient, where the returns are confined almost wholly to the irrigated land and where the land owners were in a bad condition financially at the start owing to previous dry seasons. The rates have been high from the start and the farmers have not had much, if any, surplus with which to establish themselves in mixed farming even had there been good opportunities in that direction. The result has not been encouraging. The situation at present is that of a total of 50 quarter sections in the district, 26 have already been forfeited for rates and two for taxes. One quarter is in the hands of the Dominion Government. Having acquired possession of the land, however, the district has had great difficulty in disposing of the same. With such charges against it there are no purchasers.

Except for one-half year's interest at the start, the district has never been able to meet any debenture charges and the Province has under its guarantee had to meet the interest payments as they came due. At best the district has only been able

to look after operation and maintenance and pay the annual water rental to the Canada Land and Irrigation Company.

It seems clear that the water users of the district are in just as serious a position as those in the Lethbridge Northern District, and the Province, being responsible for the debentures, is similarly situated. Whatever has been said with reference to the requirements and policy in the Lethbridge Northern district will apply to the New West.

The lands would require to be classified and rated as to value and the lands now in possession of the district turned over to Government authority and sold, inclusive of the water right, at a suitable price. It does not seem necessary here to work out the details of the arrangement. It seems sufficient to say that the same principles as are recommended for the Lethbridge Northern should be applied to the New West District and it would seem advisable that the same administration should take care of both districts.

The United Irrigation District

Efforts to establish irrigation in the territory now comprising the United Irrigation District were commenced a number of years ago and it appears that at the request of local residents the Dominion Reclamation Service made a reconnaissance survey to determine the feasibility of diverting water from the Belly River. The scheme was found to be feasible from an engineering point of view and during the summer of 1918, a dry year, a number of the farmers without waiting for official authority decided to go ahead themselves and construct ditches. Very little was accomplished, however. In March of 1919, the Alberta Stake of Zion (the Mormon Church) as owners of a large quantity of land in the vicinity, made application under The Irrigation Act to divert water for a proposed irrigation district to be known as the United District. The Reclamation Service undertook to make complete surveys that year and reported that irrigation works could be constructed to serve the area at a comparatively low cost.

The surveys indicated that through the same works a further area could be served than was contemplated in the original application. In August of 1919, the United District was erected, comprised largely of lands owned by the church, and in February of 1920, the added area was organized as the Lone Rock District. The Church did not control the lands in the latter district. The vote of the residents was practically unanimously in favour of establishing both these districts.

As only one set of irrigation works was in contemplation for the supply of water to both districts, it appeared desirable from the point of view of efficiency and economy of administration that they should unite and this was brought about early in 1921.

The estimated cost of the irrigation was about \$19.00 per irrigable acre and the scheme was reported upon favourably by experts. A series of dry years was being experienced and the residents were pressing for irrigation. Final plans showed a total estimated cost of \$640,000, and an irrigable area of about 23,000 acres, making an estimated capital charge per irrigable acre of about \$27.80.

A by-law covering the raising of the necessary money by the issue of debentures making the amount a charge against all the land in the district was carried by a vote of the people 124 to 0. As it appeared that a Government guarantee was necessary before the debentures would be saleable, this guarantee was given in 1922 and sufficient debentures were sold to defray costs. The works were economically constructed and of the \$640,000 authorized it was only necessary to dispose of debentures to the par value of \$550,000. Some additional lands were included at the owners' request and the irrigable area was by final survey increased considerably, with the result that the capital cost in this district is somewhere in the neighbourhood of \$15.00 per acre.

The cost of operation and maintenance is comparatively light and the irrigation rates have been accordingly very low as compared with other districts. The total rates covering both water service and water right payments up to and including 1928 did not average more than \$1.35 per acre. During the last two years they have been in the neighborhood of \$1.75. As compared with most irrigation projects, either of these figures would be considered as very favourable.

In spite of these low rates the water users are considerably in arrears. The district itself has so far met all its debenture obligations. The Government has never been called upon to make any payments under its guarantee. No lands have ever been forfeited for non-payment. But for the past three years the rates have been very slow in coming in.

The reason offered for the difficulties of the farmers is a paradoxical one in an irrigation district—too much rain! In the majority of years since the construction of the works there has been more than ample rainfall. The consequence is that

irrigation farming has not been generally followed and some of the water users explained they feared to irrigate even when things seemed dry for fear of heavy rains following, with the result that more harm than good would result.

In the discussion of the Lethbridge Northern problems in this report it has been held that, due to climatic conditions, the value of irrigation to the land is less in the Macleod area than in the East end of the district. The Macleod condition is doubtless intensified if applied to the United district which is still further west and closer to the mountains, with a shorter season and generally more rainfall.

In 1927 there were 26 inches of precipitation from May to October inclusive. When one realizes that the average in the vicinity of Edmonton is about only 18 inches annually, the exceedingly wet conditions may be realized. Frost in 1928 again caused serious trouble for the farmers and the present low level of prices of farm products has not helped the situation.

The result is that for the past three years, while no lands have been forfeited for rates, the occupants have been slow in paying and the registration of the rate enforcement return has been deferred for several months each year to enable the rates to be collected. In a number of cases the rates have eventually been paid by the Alberta Stake of Zion, as registered owners of the land.

Evidence was produced to show that the average gross annual returns for the past four years, including 1929, was between \$1,800 and \$1,900 per quarter section. This means about \$20.00 per irrigable acre or \$12.00 per farm acre. As very little irrigation has been practised the latter figure is probably the fairer and gives the better picture of what has happened in the district.

It is the generally accepted belief, however, that these excessive moisture conditions are abnormal. As a matter of fact there was evidence to show that water was advantageous this season and while the territory is one where the need of irrigation is not as great as in more arid regions, it is still required in some years and the cost of the water in this project is so low that the occasional advantage is probably sufficient to justify the cost.

In spite of the present difficulties, the residents value their land, in addition to the water right, at around \$30,00 and upward per acre. If the cost of the water right be added to this

we have a total combined value of land and water right amounting to \$45.00 or over. If, following the same principle as adopted in dealing with the Lethbridge Northern and taking fully into consideration the climatic conditions, we assume that the value of the water right is only $3\frac{1}{7}$ of the total value, we find that to be at least \$19.30 which is considerably higher than the actual cost.

Dismissing for the moment the question of the extent to which irrigation may have increased the value of land in this district, where there is so frequently ample rainfall, there is no doubt in the minds of the Commissioners, or we think in the minds of the owners, that the lands would be readily saleable for considerably more than enough to satisfy the irrigation charges.

If, therefore, the problem is attacked from the same point of view which has been taken with respect to the other districts, there would not appear to be any justification for recommending that any action should be taken which might be equivalent to an assumption by the Province of any of the capital charges. The highest level that the annual rates can ever reach is not much in excess of ordinary water service charges in many projects and while the settlers may be in temporary difficulties it would seem that generally the district comprises good farming land and that the low rates can doubtless be eventually met without serious hardship. The temporary difficulties can also doubtless be cared for by the exercise of discretion in connection with rate enforcement proceedings as has been done in the past. The situation is somewhat similar to that of a man who, having land worth say \$40.00 per acre, has mortgaged it to the extent of \$15.00 per acre to add an improvement expected to be remunerative. So far the improvement has not proved so but with the large equity still left in the land the owner is still in a position to pay.

Claim has been made that settlers in the district, as compared to farmers on dry land, are at a disadvantage with respect to credits required for proper farming operations. Consideration might be given to including the residents of the United District in any plan for extending credits in the irrigation districts if investigation by competent authorities indicated the necessity or desirability for this.

The Board requested that the Government appoint an Agricultural Agent who would be available for their district to advise the people in proper farming methods both in field crop and live stock production.

The Commission considers that something of this kind is desirable and recommends that steps be taken to provide that district with the service they ask for in this connection.

Acknowledgments

The Commission wishes to express its appreciation of the assistance which was so generously given, and the information so willingly produced by all the officials and individuals from whom information was sought. The work of the Commission has been greatly facilitated thereby, and we wish to express our thanks for the courtesies shown.

Particular reference should be made to the valued information supplied and the wise counsel given by Mr. S. G. Porter, Manager of the Department of Natural Resources of the Canadian Pacific Railway Company, the benefit of whose knowledge and advice was valuable to the Commission throughout the whole of their investigation. Reference should also be made to the assistance and information furnished by Mr. D. W. Hays, Manager of the Canada Land and Irrigation Company.

Respectfully submitted,

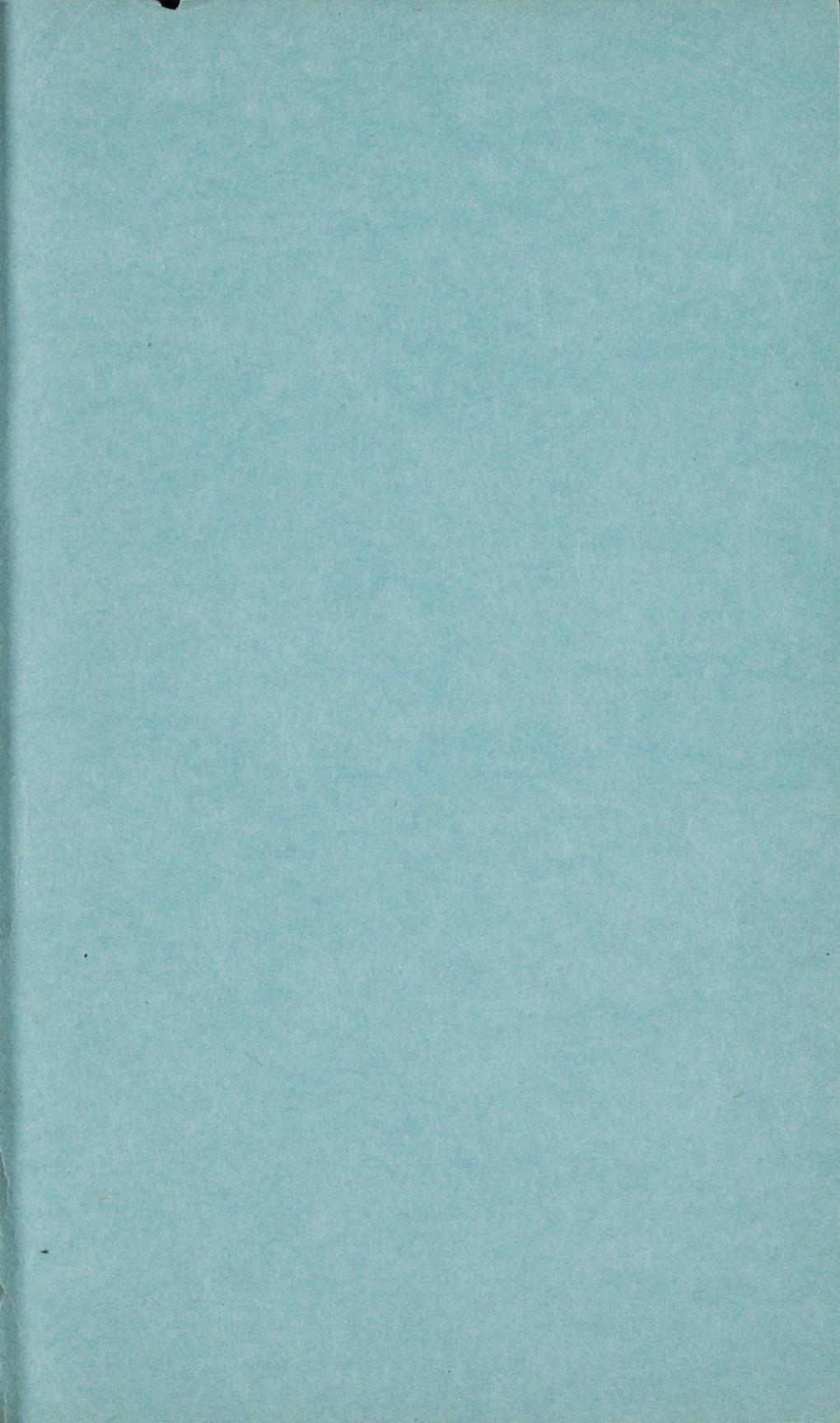
M. L. WILSON,
Chairman.

W. H. FAIRFIELD,
Commissioner.

L. C. CHARLESWORTH,
Commissioner.

Lethbridge, October 16th, 1930.





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ALBERTA COMMISSION APPOINTED TO
REPORT ON THE LETHBRIDGE NORTHERN
AND OTHER IRRIGATION DISTRICTS IN
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